DOCUMENT RESUME

ED 414 300 TM 027 748

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TITLE Location of Glossary Words as a Factor in Students' Performance on Vocabulary Tests.
PUB DATE 1997-00-00
NOTE 17p.; Paper presented at the Annual Meeting of the Northeastern Educational Research Association (20th, 1997).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Glossaries; Grade 8; *Junior High School Students; Junior High Schools; *Performance Factors; Reading Skills; Reading Tests; Test Results; *Textbooks; *Vocabulary Development

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ED 414 300

Location of Glossary Words as a Factor in Students' Performance on Vocabulary Tests

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Paper prepared for the 20th Annual Conference

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ABSTRACT

This study involving 84 eighth-grade reading students in a rural middle school measured the effects of the location of glossary (vocabulary) words in anthology text books. Control groups read from texts with glossary words only at the end of the texts, and experimental groups read from texts with the glossary words on the bottom of the text pages. All students took the same vocabulary tests the day following the completion of reading each of two different stories: *The Tell-Tale Heart* and *Flowers for Algernon*. Based on vocabulary test results, no significant differences existed between the scores of students in the control and the experimental groups. The implications are, therefore, that teachers and administrators should question the need to change from traditional text books that have glossary words only at the end of the texts.

Location of Glossary Words as a Factor in Students' Performance on Vocabulary Tests

Since at least 1979, when Durkin found that explicit vocabulary instruction occurs infrequently in classrooms, attention has turned to new ways of looking at how students can best learn new words. At least one text book company has attempted to facilitate students' vocabulary acquisition in a new way. McDougal Littell introduced, in its 1994 Literature and Language series, glossary words at the bottom of its literature text book pages in addition to the glossary words normally found at the end of literature text books. However, a search of the literature revealed no previous studies addressing whether or not this innovation has resulted in students' learning vocabulary words better than if they used conventional books.

Although most types of vocabulary instruction can produce significant gains in word knowledge (Nagy, 1985), many college text books advocate the teaching of vocabulary in numerous ways other than the traditional method (for example, Roe, Stoodt, and Burns, 1995; Cooter and Flynt, 1996; Dunning, 1996; Vacca, 1996; Maxwell and Meiser, 1997). (The traditional system of teaching vocabulary is all-too-familiar: from a list of words, students look up definitions in a dictionary, fill out worksheets or workbook pages, use the words in a sentence, then study for a test.)

Instead, reading educators generally recognize that teaching vocabulary words in context is better. Words taught in context will be learned more effectively than words taught in isolation, and teaching isolated word meanings cannot produce large-scale vocabulary growth (Nagy & Herman, 1984; Flippo & Caverly, 1991; Anderson & Nagy, 1992; Robinson, McKenna, and Wedman, 1996). Students generally can predict what a word might mean from its context (Nickerson, R, 1983; Milner, 1993), but context-based vocabulary instruction has its limitations (Nagy, 1988). The use of a glossary or dictionary can supplement the use of context clues to facilitate students' immediate determination of words encountered in context.

However, whereas dictionaries can help students learn the meanings of words found while reading, they have their limitations. Students often use fragments of dictionary denotations to define a given word (Scott & Nagy, 1991), thus not understanding correctly the word in question. Dictionaries, with their tens of thousands of words, are not as convenient to use as glossaries with only a few hundred words at most. Furthermore, glossaries usually limit the number of possible meanings of new vocabulary words to fit the vocabulary words in context in the text itself.

Since "understanding the vocabulary of a reading selection is...essential to its comprehension," (Vaughan & Estes, 1986, p. 197) and vocabulary is a key

element of comprehension (Stahl & Fairbanks, 1986; Stahl, 1990; Conley, 1992), reading teachers should take care in selecting literature books that present vocabulary in the most meaningful way. This means examining whether or not the books have glossaries, and, if they do, how the glossaries can facilitate students' learning of new vocabulary words. As Roe, Stoodt, and Burns point out, students may have difficulty choosing the correct definition for a vocabulary word in con-text from several given in a dictionary or glossary.

Anderson and Nagy (1993) found shortcomings in many of the definitions found in glossaries, and McKeown (1993) found that revised *dictionary* [emphasis added] definitions helped students understand the correct uses of words. Therefore, it makes sense to investigate the innovative idea of providing students with glossary definitions specifically for a word in question on the same page as that on which the vocabulary word appears. Furthermore, students may be more inclined to look at the definition of a word if they do not have to turn to the back of the book to do so, simply as a matter of convenience.

It is important in the context of this study to comment on the use of words *footnoted* in an anthology text. Many text books have footnotes at the bottom of a page that are not included in a glossary. Usually these fall into the category of technical vocabulary (Vacca, 1996) in that the words have specific meanings which do not vary according to context. Students are unlikely to encounter the words frequently in their general reading. Words defined at the bottom of pages of the McDougal Littell anthology, on the other hand, are indeed likely to be encountered

by students again in their general reading; hence they are defined as glossary words rather than as technical vocabulary words.

To determine the value of using anthology text books that place glossary words on the bottom of text pages, this study measured students' performance on vocabulary tests. Control groups read anthology texts with glossary words only at the end of the texts, and experimental groups read anthology texts with glossary words at the bottom of text pages and at the end of the texts.

METHOD

Subjects

Subjects involved in the study were 84 eighth-grade students in four different reading classes. Students had been randomly assigned to the classes by the administration during the summer preceding the study, and classes were generally balanced in terms of student gender and ethnicity. The vocabulary test scores of a few subjects classified as special education students were not included in the results, for those students received help during their reading and test taking. Two female teachers participated in the study on the basis of their having taught reading in the school several years and on their mutual interest in what the study might reveal.

Setting, Schedule, and Texts

The researcher and the teachers met early in September and examined the eighth-grade McDougal Littell Literature and Language (Green Level, 1994) anthology and other texts that shared selections in common with that text. Two stories appeared both in the Literature and Language book and other available conventional texts (with glossary words only at the end of the texts): *The Tell-Tale Heart* and *Flowers for Algernon.* Both stories had been part of the eighth-grade curriculum for several years. Pat and Kathy agreed to teach the literature selections in the normal course of the fall semester and not inform students that a study was being conducted. If either teacher were asked by students why she was doing vocabulary a different way, she would answer, "I'm curious to see which way is better."

Research Design

The purpose of the study was to determine if students using literature anthology texts with glossary words at the bottom of text pages would learn more vocabulary than students using literature anthology texts with glossary words at the end of the texts.

Two teachers were involved in the study to increase the sample size of students and to reduce the variability of teacher effect. One teacher, Pat, taught two of the classes in the study; and another teacher, Kathy, taught two other classes. Students had been informed at the beginning of the academic year that they would be responsible for knowing vocabulary words from works of literature

that would appear in their anthology texts. Prior to reading the stories on which the study focused, students read a few other selections to acquaint them with the nature of the vocabulary tests that would be used throughout the semester.

Since both teachers had two similar sections of randomly grouped eighth-grade literature classes, for each literature selection both teachers taught one class using the text with the glossary only at the end of a text (control group), and taught another class using the text with glossary words on the bottom of the page on which the word appeared (experimental group). Accordingly, no class experienced reading a given selection twice, and each class experienced a reading in a controlled setting and a reading in the experimental setting. Class averages were aggregated to lessen the impact of teacher effect, combining the students' scores from Pat's control group with the students' scores from Kathy's control group. The same procedure was followed for the students' scores from both teachers' experimental group.

The following table clarifies the design of the study:

Table A

Structure of Classes: Control and Experimental

Teacher Class	*Tell Tale Heart*	*Flowers for Algernon*
Pat		
Class A	Control	Experimental
Class B	Experimental	Control
Kathy		
Class C	Control	Experimental
Class D	Experimental	Control

Pat and Kathy generally followed the procedures recommended by Cooter and Flynt (1996) for utilizing a glossary. However, instead of performing a content analysis to aid in selecting which words to use, they used lists of words recommended by the teacher's manual. The teachers gave students a list of all words listed in the glossary entries of the McDougal Littell text and instructed them to write the words in their notebooks, along with their definitions and parts of speech as listed with the glossary words at the end of the texts. The few words not found in common between the McDougal Littell text and the texts used in the control groups were purposely not included in the lists.

Students in all the classes were assigned readings for one night and

discussed the readings the next school day, when the teachers helped them identify how the vocabulary words related to each other and how they could be grouped into similar categories. During the course of classroom discussion (which included the elements of plot development, style of writing, characterization, setting, etc.) the teachers focused on how context could help them predict the meaning of the vocabulary words. Conversely, students used a study of the vocabulary words to understand better literary elements of the texts (Chase & Duffelmeyer, 1990). All vocabulary words were thus discussed page by page in the order in which they appeared.

To help insure consistency in the study the researcher maintained frequent contact with the teachers, and the teachers conferred with each other on almost a daily basis.

Evaluation Instruments

The day after students completed reading each story, the teachers gave students tests on all the vocabulary words associated with the respective story. Since, as Maxwell and Meiser (1997) proclaim, words are not to be taken out of context for testing, Pat and Kathy devised sentences that utilized the vocabulary words in ways similar to that in which they had occurred in the text. The test was comprised of a word bank of vocabulary words and a sentence with a blank into which the appropriate word would fit, (with five additional distractor sentences). In other words, students were asked to find the sentences that best fit the words,

which were not inflected.

RESULTS

Aggregate scores and corresponding means were calculated for the vocabulary scores of each class for each of the works read. Composite mean scores (to minimize the variables of having two different teachers involved in the study) were calculated for each group.

Table B

Comparison of mean aggregate test scores

Group	n	M	SD	SE MEAN
C1	36	66.67	17.6	2.93
E1	36	68.33	21.3	3.55
C2	37	72.57	23.2	3.81
E2	33	73.64	20.7	3.61

Note.

C = Control Group (with glossary at the end of the book).
E = Experimental Group (with glossary at bottom of each page), and

P values < .05 suggest a significant difference between a given control group and an experimental group at the .05 level of confidence. The following P values were obtained through two-sample Z tests of the scores:

C1/E1 = .36 (no significant difference)

C2/E2 = .42 (no significant difference)

DISCUSSION

The results of this study suggest that teachers who are considering using anthology books that have vocabulary words at the bottom of pages instead of only at the end of anthology texts should not assume their students will learn those vocabulary words any better. The convenience of having the words at the bottom of the page apparently does not, in itself, insure that students will learn those words better than if they have to turn to the back of the text to note the definitions to the vocabulary words.

Although vocabulary has been a subject of concern for some time, there is still little information about the number of unfamiliar words that students encounter as they read (Robinson, McKenna & Wedman, 1996). Since every student comes to a reading with a different set of reading experiences and abilities, teachers should try using a variety of techniques for teaching the use of context clues in reading, such as those suggested by Sinatra and Dowd (1991), Petrick (1992), or Ianocone (1993). Since it is unlikely any one way of teaching vocabulary is best, reading teachers should continue to explore new ideas of teaching vocabulary and tailor vocabulary acquisition strategies to their particular students.

Although the definitions in many text book glossaries often are inadequate

(Anderson and Nagy 1993), books with glossary words at the bottom of text pages may indeed help *some* students acquire better vocabularies. Until further studies are conducted, not only teachers, but also others responsible for selecting anthology text books should question whether a change in text books is warranted based solely on the location of glossary words in those texts.

REFERENCES

Anderson, R., & Nagy, W. (1992). The vocabulary conundrum. *American Educator, 16*, 14-18, 44-47.

Anderson, R., & Nagy, W. (1993). The vocabulary conundrum. Technical Report No. 570. Urbana, IL: Center for the Study of Reading.

Chase, A., & Duffelmeyer, F. (1990). VOCAB-LIT: Integrating vocabulary study and literature study. *Journal of Reading, 34*, 188-93.

Conley, M. (1992). *Content reading instruction: A communication approach*. NY: McGraw Hill.

Cooter, R., & Flynt, E. (1996). *Teaching in the content areas: Developing literacy for all students*. Englewood Cliffs, NJ: Prentice-Hall.

Durkin, C. (1979). What classroom observations reveal about reading comprehension. *Reading Research Quarterly, 14*, 481-533.

Flippo, R., & Caverly, D. (Eds.), (1991). *Teaching reading and study strategies at the college level*. Newark, DE: International Reading Association

Gunning, T. (1996). *Creating reading instruction for all children*. NY: Allyn & Bacon.

Ianacone, J. (1993). Vocabulary Lists: The ambsace of word study. *English Journal, 82*, 41-45.

Literature and language. (1994). NY: McDougal and Littell.

Maxwell, R. & Meiser, M. (1997). *Teaching students in middle and secondary schools*. (2nd ed). Upper Saddle River, NJ: Merrill.

McKeown, M. (1993) Creating effective definitions for young word learners. *Reading Research Quarterly, 28*, 16-31.

Milner, J. & Milner, L. (1993). *Bridging English*. NY: Macmillan

Nagy, W. (1985). Learning words from context. *Reading Research Quarterly, 20*, 233-253.

Nagy, W. (1988). Vocabulary instruction and reading comprehension. Technical Report No. 431. Cambridge, MA: Bolt, Beranek and Newman, Inc.

Nagy, W., & Herman, P. (1984). Limitations of vocabulary instruction. Technical Report No. 326. Cambridge, MA: Bolt, Beranek and Newman, Inc.

Petrick, P. (1992). Creative vocabulary instruction in the content area. *Journal of Reading, 35*, 481-482.

Robinson, R., McKenna, M., & Wedman (1996). *Issues and trends in literacy education*. Boston: Allyn and Bacon.

Roe, Stoodt, and Burns. (1995). *Secondary school reading instruction: The content areas*. (5th ed.). Boston: Houghton-Mifflin.

Scott, J., & Nagy, W. (1991). Understanding definitions. Technical Report No. 528. Cambridge, MA: Bolt, Beranek, and Newman.

Sinatra, R., & Dowd, C. (1991). Using syntactic and semantic clues to learn vocabulary. *Journal of Reading, 35*, 224-229.

Stahl, S. (1990). Beyond the instrumentalist hypothesis: Some relationships between word meanings and comprehension. Technical Report No. 505. Cambridge, MA, Bolt, Beranek and Newman, Inc.

Stahl, S., & Fairbanks, M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research, 56*, 72-110.

Vacca J. (1996). *Content area reading*. (5th ed.). NY: Addison-Wesley.

Vaughan, J. & Estes, T. (1986) *Content area literacy*. Newton, MA: Allyn and Bacon.